

calcite in the lower part, widening towards the upper part, indicative of their having formed portions of the excretory canal-system. Half the natural size.

- Fig. 3.* The same. Portion of the lower surface, including the smaller excavation and stem-like process. *a*, excavation; *b*, stem-like process. Half the natural size.
- Fig. 4.* The same. Separate granule of calcite, much magnified, to show more or less longitudinal sections of spicules in it. Diagram. Spicules on the scale of 1-48th to 1-1800th inch. *a*, calcite; *b*, spicules, variable in length and transverse diameter.
- Fig. 5.* The same. Example of the staple form of a perfect spicule found in the heterogeneous sandy material filling the interstices between the "granules" near the surface. Scale 1-48th to 1-1800th inch.
- Fig. 6.* The same. Portion of the surface of the larger excavation, showing the broken ends or transverse sections of the spicules (*fig. 1, a*). *a*, ends on a level with the surface; *b*, ends protruding. Scale of spicules 1-48th to 1-1800th inch.
- Fig. 7.* *Dysidea antiqua*, n. sp. (Siliceous.) Showing general form of most perfect specimen, and portion of reticulated surface. $\times 2$. *a*, portion of reticulated surface.
- Fig. 8.* The same. Portion of the reticulated structure, much magnified, showing:—*a a*, the fibre composed of heterogeneous material; *b b*, the interstices; *c*, fragments of cylindrical spicules in the fibre; *d*, fragments of lithistid-like fibre. Diagram.
- Fig. 9.* The same. A few of the fragmentary spicules washed off the fibre and mounted in balsam, to show that the fibre is heterogeneously composed. *a*, smallest four-armed anchoring-spicule seen; *b*, (?) branch of lithistid sponge-spicule. Scale 1-96th to 1-6100th inch.

Budleigh-Salterton,
28th November, 1877.

XVI.—*Notes on new and little-known Mantidæ.* By Prof. J. WOOD-MASON, Deputy Superintendent, Indian Museum, Calcutta.

1. *Euchomena thoracica*.

Mantis (Thespis) thoracica, De Haan, Orthopt. Orient. p. 94, ♀.

Phasmomantis? thoracica, Saussure, Mélanges Orthopt. i. 3^e fasc. p. 192 (44); *ibid.* p. 403 (279).

Fischeria thoracica, Saussure, *op. cit.* ii. 4^e fasc. p. 58.

Euchomena? macrops, Saussure, *op. cit.* i. 3^e fasc. p. 196 (48), ♂.

"*Femina.* Alis abbreviatis, hypothoracem non superantibus, immaculatis; prothorace longissimo, integro; femoribus anticis intus pallidis, fasciis tribus fuscis; pedibus posticis nigro marmoratis; cercis analibus cylindricis. Long. proth. 2"; abdom. 15"; elytr. 6". *Hab.?*"

Hab. A specimen of the female was captured several years ago by my native collector in Johore, Malay peninsula; and

another, which has been independently identified by Prof. Westwood as the *T. thoracica* of De Haan, exists in the Hopeian collection at Oxford.

The following are the measurements of the specimen (dried) from Johore :—

Total length of body 106 millims.; height of head 5, breadth of head 8; length of prothorax 58, of which the neck is 8·33, breadth of prothorax at narrowest part, just behind dilatation, 2·25; length of meso- and metanotum together 13, of tegmina 12, of abdomen 31; of fore coxa 22·5, of femur 26, of its unarmed part 14·5; of intermediate femur 25, of tibia 23; of posterior femur 31, of tibia 32.

The fore tibiæ have 7 teeth on the outer edge, the base of which is unarmed, and 14 on the inner; the abdomen is depressed and rather broadly fusiform, with its posterior segments graduated*so as to have a serrated appearance in this part; and the supraanal plate is short, broader than long, and rounded off at the extremity.

This species cannot be the female of *Fischeria gigas* as suggested by De Saussure, but is, in all probability, that of *Euch.?* *macrops*, Sauss., from Cochin China.

Euchomena heteroptera, *Euch.?* *macrops* ♂, and *Euch. thoracica* ♀ all have the inner face of the fore femora triply banded with fuscous, and all belong to the same fauna.

A fuller description with figures will be published hereafter.

2. *Fischeria laticeps*.

Fischeria laticeps, Wood-Mason, A. & M. N. H. 1876, 4th ser. vol. xviii. p. 337, ♂.

♀. Ocelli small, seated on a slightly elevated area, not on the ends of the rays of a triradiate elevation as in the male; the lower one circular, the two upper ones oval.

Pronotum with a very faint raised median line, on either side of which are a few small polished granules; its margins throughout minutely denticulate, the denticles blunt and polished; the sides of the disk of its posterior lobe bent down at an obtuse angle to the median portion.

Organs of flight abbreviated, in repose barely reaching so far as to the end of the basal third of the first abdominal segment. Tegmina opaque, semicoriaceous: the lower surface richly coloured, the marginal field dull luteous, the basal portion of the discoidal and the axillary field stone-coloured, with a faint tinge of red-violet, the rest of the former occupied by a great oval blotch of dark brown with amethystine reflections, in the centre of which is a large transversely oval cream-coloured ocellus, with minutely jagged edges: the upper sur-

face is of the same sober colour as the body, with a patch of lighter coloration coinciding with the anteapical cream-coloured ocellus on the under surface; the anal area very salient, black, with green reflections (dark brown by transmitted light). Wings small, forming a quadrant of a circle all but unbroken by anal emargination; the anterior field opaque, dull luteous, with a large anteapical blotch of brown, ocellate or broadly banded with yellow; the posterior field black, with green reflections (dark brown by transmitted light), lined with hyaline along the transverse veinlets.

Colour of the body luteous grey, finely mottled with pale impure olive-green.

Length of body 102 millims.; height of head 4·75, breadth of head 9·8; length of prothorax 34, of which the neck is 9·6, breadth of prothorax at supracoxal dilatation 4·6; length of abdomen 51, of cerci 12·75, of tegmina 16; width of marginal area of tegmina 1; length of anterior femur 22·6, of intermediate femur 25, of posterior femur 33; of antennæ 16, or about half as long as the prothorax, or as long as the tegmina.

Another specimen obtained at the same time measures only 93 millims. in length.

Described from fresh alcoholic specimens.

Hab. ♀ ♀. Bangalore District, Mysore, obtained by Private Reedy; , Sheargaon, Kolapur state, India.

There can be no doubt that the four insects, two nymphs and two adults, recently received by me from South India, are all females of this species, though so much smaller than the male specimen described *loc. suprâ cit.* In the form of the head and eyes, of the cerci and supraanal plate, of the legs, &c. they all agree perfectly with the male, differing from it in those points only in which the two sexes of other species (e. g. *F. ocellata*) of the same genus have been shown to depart from one another. These differences are the slightly stouter build, the soberer desert-form-like livery, the much-abbreviated organs of flight, these barely reaching the end of the basal third of the first abdominal segment, &c.

Specimens of both sexes of the larger race are in the Hopeian collection at Oxford; but the species is unrepresented either in the National collection or apparently in the continental collections.

3. *Hierodula notata*.

Mantis notata, Stoll, Spectres, Mantes, &c. fig. 49, ♀ (1789).

Hierodula notata, Saussure, Mélanges Orthopt. ii. 3^e fasc. p. 230, pl. v. fig. 31.

♀. Total length 67 millims.; length of prothorax 23,

breadth of prothorax at dilatation 6·3; length of meso- and metanotum taken together 17, of abdomen 21·5, of tegmina 48; breadth of tegmina 16, of marginal area 4·75.

Alcoholic specimen.

Hab. Ceylon (*F. M. Mackwood*).

4. *Hierodula birivia*.

Mantis birivia, Stoll, Spectres, Mantes, &c. pl. ix. fig. 31 (1787).

Stagmatoptera birivia, Saussure, Mém. Orth. Mexique, &c. tom. ii. p. 89, 4, fig. 8, ♀.

Hierodula birivia, Saussure, Mém. Orthopt. ii. 4^e fasc. p. 41.

♀ ♀. Total length 80–87 millims.; height of head 8·5–9·5, breadth of head 11·33–12; length of prothorax 29–32, breadth of prothorax at dilatation 8·6–9·2; length of abdomen 30–33, breadth of abdomen 18; length of mesonotum and metanotum taken together 18·5–20, of tegmina 49–53, from base to stigma 18–20, of stigma 2; breadth of tegmina 19–20·5, of marginal area 5·6–6.

Alcoholic specimens.

In the larger specimen (from Madras) the discoidal vein emits three branches in the right wing and five in the left; in the smaller (from Bangalore) three in the right and two in the left; while in M. de Saussure's specimen it is three-branched in both wings.

5. *Hierodula taprobancæ*, n. sp.

♀. Allied to the preceding, but differing:—in its stouter prothorax, the lamellar lateral margins of which are broader and extend, narrowing gradually as they go, from the supracoxal dilatation to the base of the segment; in its broader and more coriaceous tegmina, the anal area of which alone is membranous; in the form of its facial shield, which is higher (longer) than broad, instead of broader than high, the upper margin of which is obtuse-angled instead of arcuate, and the surface of which is marked by two obtuse vertical ridges on its upper half; and in the armature of the anterior angle of the fore femora, which is furnished, as in *H. notata*, with six or seven large, stout, and blunt conical spines only. The apical third of the tegmina, which in *H. birivia* are uniform green, is stained brownish yellow. The discoidal nervure of the wings is three-branched. The fore tibiæ have 14–15 teeth on the inner edge, and 11 on the outer.

Total length of body 83 millims.; height of head 9·6, breadth of head 11·6; length of prothorax 30·6, breadth of prothorax at dilatation 11; length of meso- and metanotum taken together 20·5, of abdomen 31; greatest breadth of

abdomen 20; length of tegmina 56, breadth of tegmina 23, of their marginal area 8; length of stigma 3·75; of fore coxa 21·5, femur 24·3; of intermediate femur 21, tibia 18; of posterior femur 25, tibia 25.

Dried specimen.

Hab. Ceylon. Communicated by Mr. F. M. Mackwood, of Colombo.

6. *Hierodula trimacula*.

Hierodula trimacula, Saussure, Mélanges Orthopt. i. 3^e fasc. p. 82, pl. v. fig. 29, ♀.

Hab. Omán, Arabia, obtained by Colonel Miles, the British Resident at that place. The species was described from a specimen in the Paris Museum, marked "China?"

XVII.—*Revision of the Plagusiinæ.* By EDWARD J. MIERS, F.L.S., F.Z.S., Assistant in the Zoological Department, British Museum.

THE following is a synonymic list, with brief diagnoses and remarks, of the species of this small and well-defined group, which belongs to the subtribe Catometopa, or Grapsoid Brachyura, and is peculiar on account of the remarkably flattened carapace and of the position of the antennules, which are exposed in deep longitudinal clefts or sinuses of the front and are visible in a dorsal view. It contains but two genera, *Plagusia* and *Leiolophus**.

In determining and naming the species in the collection of the British Museum, I found that several of those recorded had apparently been established on insufficient grounds, and that of others the commonly received designations could not be retained; and I think it will be useful to place these observations on record, and at the same time indicate those characters which I have found most constant and reliable for distinguishing the species.

* The curious genus *Crossotonotus*, recently established by M. A. Milne-Edwards (Nouv. Archiv. Mus. Hist. Nat. ix. p. 282, 1873) for a species (*C. compressipes*) from the Samoa Islands and New Caledonia, presents many affinities with the Plagusiinæ, but cannot be referred to this group, on account of the absence of the frontal sinuses. The genus *Plagusetes*, based on a species from Chili (*P. elatus*), described by Heller in the preliminary synopsis of the Crustacea of the 'Novara' Voyage (Verh. zool.-bot. Gesell. Wien, xii. p. 522, 1862), is not mentioned in his final report, but seems to have been based on specimens subsequently referred to *Acanthocyclus Gayi*, a genus belonging to the Cancroidea, but possessing some affinities with the Plagusiinæ.